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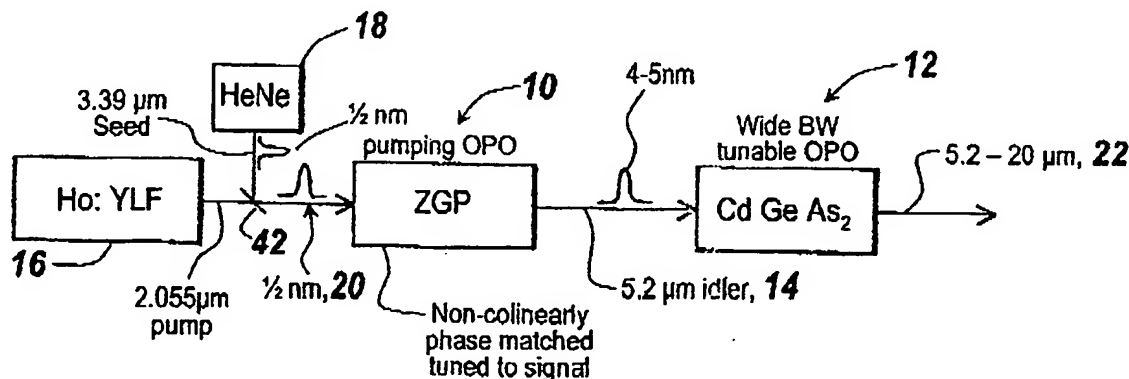
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(54) Title: METHOD AND APPARATUS FOR GENERATING MID AND LONG IR WAVELENGTH RADIATION



(57) Abstract: A narrow line width optical parametric oscillator (OPO) (10) is used as a pump for a tunable optical parametric oscillator to enable it to produce a mid and long wavelength IR output over a wide 5-20 micron bandwidth. The pumping OPO (10) is then set up to be non-collinearly phase matched. To enable the pumping OPO (10) to exhibit the narrow line width, it is seeded with a narrow line width seeding source. The result is output energy having an extremely narrow 4 nanometer line width. The narrowness of the pumping OPO (10) output is derived first by using non-collinear phase matching in the pumping OPO (10) and secondly by using seeding in the pumping of the pumping OPO (10).

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